

Appl. No. 10/753,130

Amendment dated February 11, 2005

Reply to Non-Final Office Action of August 11, 2004

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (currently amended) A liquid aqueous machine dishwasher product comprising:

a) 20 to 50% by weight of one or more water-soluble phosphates;

b) 0.1 to 70% by weight of copolymers of:

i) one or more unsaturated carboxylic acids;

ii) one or more monomers containing sulfonic acid groups; and

~~iviii~~) optionally one or more further ionic or nonionogenic monomers; and

c) 5 to 30% by weight of one or more nonionic surfactants,

wherein the pH of a 1% strength by weight solution of the composition in distilled water is between 7 and 11.

2. (original) The liquid aqueous machine dishwasher product of claim 1, comprising, as a water-soluble builder, one or more phosphates, alkali metal phosphates, or mixtures thereof.

3. (original) The liquid aqueous machine dishwasher product of claim 2, wherein the phosphates comprise either or both of pentasodium or pentapotassium phosphate.

4. (original) The liquid aqueous machine dishwasher product of claim 2, comprising the water-soluble builder(s)

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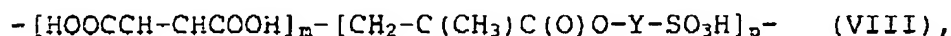
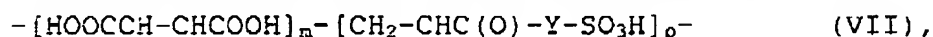
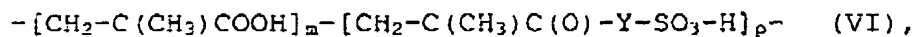
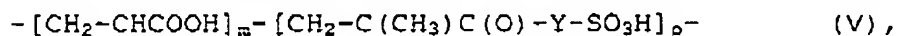
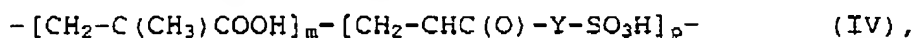
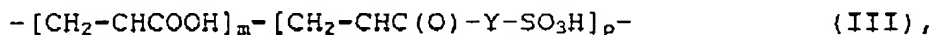
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in amounts of from 22.5 to 45% by weight, based on the total composition.

5. (previously presented) The liquid aqueous machine dishwasher product of claim 4, comprising the water-soluble builder(s) in amounts of from 25 to 40% by weight, based on the total composition.

6. (previously presented) The liquid aqueous machine dishwasher product of claim 5, comprising the water-soluble builder(s) in amounts of from 27.5 to 35% by weight, based on the total composition.

7. (currently amended) The machine dishwasher product claim 1, comprising, as ingredient b), one or more copolymers which contain structural units of the formulae III and/or IV and/or V and/or VI and/or VII and/or VIII



in which m and p are in each case a whole natural number between 1 and 2000, and Y is a spacer group which is chosen from substituted or unsubstituted aliphatic, aromatic or araliphatic hydrocarbon radicals having 1 to 24 carbon atoms.

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8. (currently amended) The machine dishwasher product claim 7, where spacer Y is $-O-(CH_2)_n-$ where $n = \theta \underline{1}$ to 4, $-O-(C_6H_4)-$, $-NH-C(CH_3)_2$, or $-NH-CH(CH_2CH_3)-$.

9. (original) The machine dishwasher product of claim 1, comprising the sulfonated copolymer(s) in amounts of from 0.25 to 50% by weight.

10. (previously presented) The machine dishwasher product of claim 9, comprising the sulfonated copolymer(s) in amounts of from 0.5 to 35% by weight.

11. (previously presented) The machine dishwasher product of claim 10, comprising the sulfonated copolymer(s) in amounts of from 0.75 to 20% by weight.

12. (previously presented) The machine dishwasher product of claim 11, comprising the sulfonated copolymer(s) in amounts of from 1 to 15% by weight.

13. (original) The machine dishwasher product of claim 1, comprising 5 to 25% by weight of the nonionic surfactant(s).

14. (previously presented) The machine dishwasher product of claim 13, comprising 6 to 22.5% by weight of the nonionic surfactant(s).

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15. (previously presented) The machine dishwasher product of claim 14, comprising 7.5 to 20% by weight of the nonionic surfactant(s).

16. (previously presented) The machine dishwasher product of claim 15, comprising 8 to 17.5% by weight of the nonionic surfactant(s).

17. (original) The machine dishwasher product of claim 1, wherein it additionally comprises 5 to 50% by weight of nonaqueous solvents.

18. (previously presented) The machine dishwasher product of claim 17, wherein it additionally comprises 7.5 to 40% by weight of one or more nonaqueous solvents.

19. (previously presented) The machine dishwasher product of claim 18, wherein it additionally comprises 10 to 30% by weight of one or more nonaqueous solvents.

20. (currently amended) The machine dishwasher product of claim 19, wherein the one or more ~~nonaqueous~~ nonaqueous solvents are selected from the group consisting of polyethylene glycols and polypropylene glycols, glycerol, glycerol carbonate, triacetin, ethylene glycol, propylene glycol, propylene carbonate, hexylene glycol, ethanol, n-propanol, isopropanol, and mixtures thereof.

21. (original) The machine dishwasher product of claim 1, wherein it additionally comprises one or more substances selected from the group consisting of acidifying agents,

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chelate complexing agents, deposit-inhibiting polymers, and combinations thereof.

22. (original) The machine dishwasher product of claim 1, wherein it additionally comprises 0.01 to 5% by weight of one or more polymeric thickeners.

23. (previously presented) The machine dishwasher product of claim 22, comprising 0.02 to 4% by weight of the polymeric thickener(s).

24. (previously presented) The machine dishwasher product of claim 23, comprising 0.05 to 3% by weight of the polymeric thickener(s).

25. (previously presented) The machine dishwasher product of claim 24, comprising 0.1 to 1.5% by weight of the polymeric thickener(s).

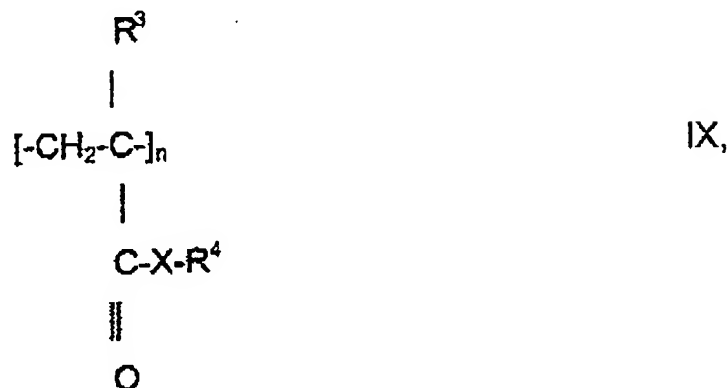
26. (previously presented) The machine dishwasher product of claim 22, wherein the polymeric thickener(s) are selected from the group consisting of polyurethanes or of modified polyacrylates.

27. (previously presented) The machine dishwasher product of claim 26, wherein the polymeric thickener(s) comprise one or more thickeners of the formula IX

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in which R^3 is H or a branched or unbranched C_{1-4} -alk(en)yl radical, X is $N-R^5$ or O, R^4 is an optionally alkoxyated branched or unbranched, optionally substituted C_{8-22} -alk(en)yl radical, R^5 is H or R^4 , and n is a natural number.

28. (original) The machine dishwasher product of claim 1, wherein it additionally comprises enzymes and/or enzyme preparations.

29. (previously presented) The machine dishwasher product of claim 28, wherein the enzymes and/or enzyme preparations comprise solid and/or liquid protease preparations and/or amylase preparations.

30. (previously presented) The machine dishwasher product of claim 28, comprising from 1 to 5% by weight of the enzymes and/or enzyme preparations.

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31. (previously presented) The machine dishwasher product of claim 30, comprising from 1.5 to 4.5 of the enzymes and/or enzyme preparations.

32. (previously presented) The machine dishwasher product of claim 28, comprising 2 to 4% by weight of the enzymes and/or enzyme preparations.

33. (original) The machine dishwasher product of claim 1, having a viscosity of from 500 to 5000 mPas.

34. (previously presented) The machine dishwasher product of claim 33, having a viscosity of from 1000 to 4000 mPas.

35. (original) The machine dishwasher product of claim 1, having a viscosity of from 1300 to 3000 mPas.

36. (canceled)

37. (currently amended) The machine dishwasher product of claim 1 36, wherein the pH of a 1% strength by weight solution of the composition in distilled water is between 8 and 10.

38. (previously presented) The machine dishwasher product of claim 37, wherein the pH of a 1% strength by weight solution of the composition in distilled water is between 8.5 and 9.5.

39. (original) The machine dishwasher product of claim 1, wherein it additionally comprises one or more redox-active

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substances selected from the group consisting of manganese, titanium, zirconium, hafnium, vanadium, cobalt and cerium salts and/or complexes and mixtures thereof.

40. (previously presented) The machine dishwasher product of claim 39, where the metals are present in one or more of the oxidation states II, III, IV, V or VI.

41. (original) The machine dishwasher product of claim 39, wherein the metal salts and/or metal complexes are present in an amount of from 0.05 to 6% by weight.

42. (original) The machine dishwasher product of claim 41, wherein the metal salts and/or metal complexes are present in an amount of from 0.2 to 2.5% by weight.

43. (original) The machine dishwasher product of claim 39, wherein the metal salts and/or metal complexes are selected from the group consisting of MnSO_4 , Mn(II) citrate, Mn(II) stearate, Mn(II) acetylacetonate, Mn(II) [1-hydroxyethane-1,1-diphosphonate], V_2O_5 , V_2O_4 , VO_2 , TiOSO_4 , K_2TiF_6 , K_2ZrF_6 , CoSO_4 , $\text{Co(NO}_3)_2$, $\text{Ce(NO}_3)_3$, and mixtures thereof.

44. (original) The machine dishwasher product of claim 1, wherein it additionally comprises one or more magnesium and/or zinc salts and/or magnesium and/or zinc complexes.

45. (original) The machine dishwasher product of claim 44, comprising one or more magnesium and/or zinc salt(s) at least of one monomeric and/or polymeric organic acid.

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46. (original) The machine dishwasher product of claim 45, comprising insoluble zinc salts having a particle size below 1.7 millimeters.

47. (original) The machine dishwasher product of claim 1, wherein it is packaged in portions in a water-soluble enclosure.

48. (original) The machine dishwasher product of claim 47, wherein the enclosure comprises one or more materials selected from the group consisting of polymers containing acrylic acid, polyacrylamides, oxazoline polymers, polystyrenesulfonates, polyurethanes, polyesters, polyethers, and mixtures thereof.

49. (original) The machine dishwasher product of claim 47, wherein the enclosure has a wall thickness of from 10 to 5000 μm .

50. (original) The machine dishwasher product of claim 49, wherein the enclosure has a wall thickness of from 20 to 3000 μm .

51. (original) The machine dishwasher product of claim 50, wherein the enclosure has a wall thickness of from 25 to 2000 μm .

52. (original) The machine dishwasher product of claim 51, wherein the enclosure has a wall thickness of from 100 to 1500 μm .

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53. (original) The machine dishwasher product of claim 47, wherein the water-soluble enclosure comprises one or more materials selected from the group consisting of (optionally acetalized) polyvinyl alcohol (PVAL), polyvinylpyrrolidone, polyethylene oxide, gelatin, cellulose, derivatives thereof, and mixtures thereof.

54. (original) The machine dishwasher product of claim 47, wherein the enclosure comprises a polyvinyl alcohol whose degree of hydrolysis is 70 to 100 mol%.

55. (original) The machine dishwasher product of claim 54, wherein the enclosure comprises a polyvinyl alcohol whose degree of hydrolysis is 80 to 90 mol%.

56. (original) The machine dishwasher product of claim 55, wherein the enclosure comprises a polyvinyl alcohol whose degree of hydrolysis is 81 to 89 mol%.

57. (original) The machine dishwasher product of claim 56, wherein the enclosure comprises a polyvinyl alcohol whose degree of hydrolysis is 82 to 88 mol%.

58. (original) The machine dishwasher product of claim 54, wherein the polyvinyl alcohol has a molecular weight in the range from 10 000 to 100 000 gmol^{-1} .

59. (original) The machine dishwasher product of claim 58, wherein the polyvinyl alcohol has a molecular weight in the range from 11 000 to 90 000 gmol^{-1} ,

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60. (original) The machine dishwasher product of claim 59, wherein the polyvinyl alcohol has a molecular weight in the range from 12 000 to 80 000 gmol^{-1}

61. (original) The machine dishwasher product of claim 60, wherein the polyvinyl alcohol has a molecular weight in the range from 13 000 to 70 000 gmol^{-1} .